## U.S. DEPARTMENT OF LABOR

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MINE SAFETY AND HEALTH ADMINISTRATION

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DIESEL PARTICULATE MATTER EXPOSURE

OF UNDERGROUND METAL AND NONMETAL MINES

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PUBLIC HEARING

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TUESDAY

SEPTEMBER 23, 2003

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PITTSBURGH, PENNSYLVANIA

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Panel Members: George Saseen Jim Petrie Becki Smith Deborah Green Doris Cash

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| 1  | P-R-O-C-E-E-D-I-N-G-S                                     |
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| 2  | 9:05 a.m.   |
| 3  | MS. SMITH: Good morning. My name is Becki                 |
| 4  | Smith. I am the Deputy Director of MSHA's Office of       |
| 5  | Standards, Regulations and Variances, and on behalf of    |
| 6  | Dave Lauriski I would like to welcome you to this public  |
| 7  | hearing today.  |
| 8  | The purpose of this hearing is to obtain                  |
| 9  | input from the public on the proposed rule published in   |
| LO | the Federal Register on August the 14th, 2003 addressing  |
| 11 | Diesel Particulate Matter Exposure of Underground Metal   |
| 12 | and Nonmetal Miners.                                      |
| L3 | Joining me on the panel, today, are my right              |
| L4 | is Jim Petrie. Jim is the District Manager for MSHA's     |
| 15 | Northeastern District, and Chairman of the Diesel         |
| L6 | Particulate Committee.                                    |
| L7 | George Saseen is from MSHA's Technical                    |
| 18 | Support Organization. And on my left, Deborah Green is    |
| L9 | from the Office of the Solicitor for Mine Safety and      |
| 20 | Health, and Doris Cash is from MSHA's Metal and Non-Metal |
| 21 | organization.   |
| 22 | This hearing is being held in accordance                  |
| 23 | with Section 101 of the Federal Mine Safety and Health    |
| 24 | Act of 1977. As is the practice of this agency, formal    |

rules of evidence will not apply; therefore,

cross-examination of the hearing panel will not be allowed, but the panel may explain and clarify provisions of the proposed rule. Also, as moderator of this public hearing I reserve the right to limit the amount of time each speaker is given as well as questions of the hearing panel.

Those of you who have notified MSHA in advance of your intent to speak will be allowed to make your presentations first. I will call speakers in the order that requests were made.

Following these presentations others who request an opportunity to speak will be allowed to do so. We invite all interested parties to present their views at this hearing, and if you wish to speak please be sure to sign in at the registration table. We will remain in session today until everyone who desires to speak has an opportunity to do so. Also, if you're not signing up to speak today, we would like for you to sign the general sign-in sheet so we will have an accurate record of those in attendance at today's hearing. We will also accept written comments and data at this hearing from any interested party, including those of you who are not speaking at the hearing.

When I call on you to speak, please come to the speaker's table and begin your presentation by

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1 identifying yourself and your affiliation for the record. If you have a prepared statement or any supporting 2 3 documents for the record, please leave a copy with us. You can give written comments on this 4 5 hearing to us today, or you can send them to MSHA's 6 Office of Standards electronically, by facsimile, by 7 regular mail, or by hand delivery using the address information listed in the hearing notice. 8 9 In addition to the hearing today, there was 10 a hearing in Salt Lake City, Utah, on September the 16th; 11 one in St. Louis, Missouri on September the 18th, and 12 there will be one other hearing in Arlington, Virginia, 13 on October the 7th. 14 The post-hearing comment period will end on October 14, and submissions must be received on or 15 16 before that date. 17 A verbatim transcript of this hearing will 18 be made as part of the record and it will be posted on 19 MSHA's website. If you would like a copy sooner, you 20 could make your own arrangements with the court reporter. 2.1 The company information is available at the registration 2.2 table. 23 We will have a break at noon, and breaks in 2.4 the morning, as necessary. Before we begin I would like

to give you some background on the proposed rule we are

addressing today.

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On January the 19th, 2001, MSHA published the final rule addressing the health hazards to underground metal and nonmetal miners from exposure to diesel particulate matter. The rule establishes new health standards for underground metal and nonmetal miners by requiring use of approved equipment and low sulfur fuel, and by setting an interim and final concentration limit for diesel particulate matter in the underground mining environment.

MSHA established staggered effective dates for enforcement of the concentration limits. The interim concentration limit of 400 micrograms per cubic meter of air of total carbon was to become effective on July 20th, 2002. The final concentration limit of 160 micrograms per cubic meter of air of total carbon was scheduled to become effective on January 20th, 2006.

On January 29, 2001, several mining trade associations and individual mine operators challenged the final rule and the United Steelworkers of America intervened in the case, which is now pending in the District of Columbia Circuit.

On July 5th, 2001, as a result of Phase 1 settlement negotiations, MSHA published two notices in the Federal Register. One notice delayed the effective

date of Section 57.5066(b) related to tagging requirements in the maintenance standard.

The second notice proposed a rule to make limited revisions to Section 57.5066(b) and added a new paragraph to Section 57.5067(b) regarding the definition of "introduced" in the engine standard. The final rule was published on February 27th, 2002.

Phase 2 of the settlement agreement was reached in June of 2002. Under the agreement the interim concentration limit became effective on July 20th, 2002, without further legal challenge.

Mine operators had one year to develop and implement good-faith compliance strategies to meet the interim concentration limit. MSHA agreed to conduct compliance assistance during the one-year period.

MSHA also agreed to reenter rulemaking on several other disputed provisions of the 2001 rule. The legal challenge to the rule has been stayed pending completion of the additional rulemakings.

On September the 25th, 2002, MSHA published an Advance Notice of Proposed Rulemaking. MSHA noted in that Advance Notice that the scope of the rulemaking is limited to the terms of the settlement agreement and addresses MSHA's intent to repropose the interim and final concentration limits.

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1 On July 20th, 2003, MSHA began enforcing the interim final limit of 400 micrograms. The agency's 2 3 enforcement policy is also based on the terms of the 4 settlement agreement and was discussed with the litigants and stakeholders on July 17th, 2003. 5 The enforcement policy is written into a 6 7 Compliance Guide, and both the Compliance Guide and a Program Policy Letter are posted on MSHA's website on the 8 9 Sole Source page for diesel particulate matter. 10 On August the 14th, 2003, MSHA published 11 it's proposed rule which would accomplishing four things: 12 (1) revise the interim concentration limit measured by 13 total carbon to a comparable permissible exposure limit 14 measured by elemental carbon, which renders a more 15 accurate diesel particulate matter exposure measurement. 16 Number 2, increase flexibility of compliance 17 by requiring MSHA's longstanding hierarchy of controls at metal and nonmetal mines, but prohibit rotation of miners 18 19 for compliance; number 3, allow MSHA to consider economic 20 as well as technological feasibility in determining if 21 operators qualify for an extension of time in which to 2.2 meet the diesel particulate matter limits. 23 And, 4, simplify requirements for a diesel

particulate matter control plan. Now Jim Petrie,

Chairman of the Diesel Particulate Committee, is going to

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give you an overview of the proposed rule after which, then, I will begin calling speakers. Jim?

MR. PETRIE: Thanks, Becki. This is just a

very brief summary of the rule. What it does is it compares the existing rule with the key provisions in the proposed rule. There's only about ten slides, so if you have any questions, as I go through this, just speak up, and I will try to clarify any issues that you may have.

These are the sections of the existing rule that I will be addressing, the interim limit, special extensions of time requirements, exceptions to the diesel particulate limits which are the requirements to use respiratory protection for certain tasks, such as inspection, maintenance, and repair activities. The otherwise prohibition on respiratory protection, prohibitions on administrative controls, and the control plan.

Regarding the interim limit, the existing rule is based on a 400 micrograms per cubic meter, it uses a total of carbon as a surrogate and it is a concentration, or a carbon element.

The proposed rule would change that interim limit to 308 micrograms per cubic meter, and that was derived, I think, from 400 and dividing it by 1.3. Now, the 1.3 came out of the settlement agreement and there

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| 1  | was a general consensus that that was the appropriate     |
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| 2  | factor to use.  |
| 3  | It is also based on the amount of carbon                  |
| 4  | surrogate, instead of total carbon, and it would be a     |
| 5  | personal exposure limit, rather than a concentration      |
| 6  | limit.  |
| 7  | PARTICIPANT: Jim, a question. So when we                  |
| 8  | measure the elemental carbon figure, under the old rule   |
| 9  | we took that number and we multiplied that by 1.3 compare |
| 10 | it to the 400. Now we simply take that number, as it      |
| 11 | stands, from the laboratory, and compare it to the 308    |
| 12 | MR. PETRIE: Yes.  |
| 13 | PARTICIPANT: Is it not true that there is                 |
| 14 | still a multiplier at 1.12                                |
| 15 | MR. PETRIE: The error factor. Yes, I did                  |
| 16 | not have that. We would have an error factor of 1.12      |
| 17 | that would be applied to the 308. Mike?                   |
| 18 | MR. WRIGHT: Yes, Jim, I just think that it                |
| 19 | is probably worth saying that the 1.3 was agreed with the |
| 20 | settlement agreement                                      |
| 21 | MR. PETRIE: Thanks. On the final limit,                   |
| 22 | the proposed rule does not address the final limit of 160 |
| 23 | micrograms per meter cubed. MSHA feels that it needs      |
| 24 | more time before it can propose a change, or revision, to |
| 25 | the final limit, and we will undertake separate           |

rulemaking to address that.

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The special extension, or extension of time requirements, under the existing rule it only applies to the final limit, it can only consider technological constraints, and each mine will be limited to one extension of not more than two years.

The proposed rule would change that, it would apply that extension of time requirement to both the interim and the final limit; it would consider both economic and technological constraints, and there would be no limit on the number of extensions a mine could receive. However, the mine operator would have to renew those extensions every year.

I wanted to talk, a little bit, about hierarchy of controls. Under the existing rule operators would be required to use engineering or work practice controls. Rotation of miners would be prohibited.

Operators would need to obtain approval for using respiratory protection for inspection, maintenance, and repair activities. And when respirators are used they would have to meet the requirements of the MSHA's existing air quality standards, which incorporates ANSI Z88.21969 by reference.

The proposed is somewhat similar. Operators would be required to utilize feasible and administrative

1 controls with the exception that rotation of miners would still be prohibited. 2 They would be required to use respiratory 3 4 protection and controls where, if feasible, would not reduce the concentration to below the permissible limits. 5 6 When respirators are used, they would also 7 have to meet the existing air quality standards, and the requirements of ANSI Z88.2. With the exception that the 8 9 proposal would specify the types of filters that would 10 have to be used in those respirators. 11 The existing rule would also prohibit the 12 use of administrative controls. However, it uniquely 13 defines administrative controls as being rotation of 14 miners. Other work practice controls would be allowed under the existing rule. 15 16 The proposal is similar, and it is mainly a 17 difference in semantics, rotation of miners would still 18 be prohibited, but any other administrative or work 19 practice controls would be allowed. 20 In regards to respiratory protection, the 21 proposal does not include provisions on medical 2.2 evaluation of respirator wearers or transfer of miners who cannot wear respirators. We do, however, solicit 23 2.4 comments on these issues in the proposal. 25 On the control plan requirements, under the

1 existing rule, they were triggered by a single violation, they would require verification monitoring, and the 2 control planning would be in effect for three years from 3 the date of the violation. 4 5 Under the proposed rule the control plan 6 would be triggered if the mine was not in compliance 7 within 90 days of receiving the citation. There is no specific verification monitoring requirements, and the 8 9 control plan would have to remain in effect for one year 10 after the citation is terminated. 11 The last slide, there are some other 12 performing changes that I have not discussed. 13 example, in other sections of the existing rule, where it 14 talks about double carbon, the proposal would revise those to talk about elemental carbon, or there is a 15 16 section that talks about a concentration limit, the 17 proposal would change that to personal exposure limit. 18 So there are just some minor conforming 19 changes. Also, and I think Becki mentioned it, MSHA's 20 combined particulate matter, and its appropriate policy 21 letter, are posted on the diesel particulate single-2.2 source page on MSHA's website. 23 Any questions? Mike? 2.4 MR. WRIGHT: Returning to the issue of the

special extensions, and the agency's proposal to include

extensions, can you expand on what kind of data it will require, in terms of economics, and what the criteria will be for making the determination that particulate control is economically unfeasible, even if it is technologically feasible, and how you plan to get that out to the mining community, so that they will know what the parameters are.

MR. PETRIE: It could be a wide range of data, anywhere from the specific box of control, to the effects on mine activity. I would say it could go as far as requiring mine operators to submit TECs, which are the information.

We have done that under some cases, under ZINC related standards, where operators have claimed that they could not afford to make, to correct the various violations or citations.

So it could be a variety of information that we might ask for, to prove that controls are, indeed, economically unfeasible for the mine operator.

MS. GREEN: If I may, Mike? The agency looks at whether or not a similar type of operation, in the area, is able to install a similar type of control. If they are then the agency talks to the operator in question and says, we believe that you can accomplish

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| 1  | this, because they have been able to accomplish it.       |
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| 2  | Unless you can give us, like Jim said,                    |
| 3  | verifying information that it cannot be done, from an     |
| 4  | economic standpoint. Obviously the agency does not have   |
| 5  | statistical information on the specific operators capital |
| 6  | or ability to buy the equipment.                          |
| 7  | So the onus is more so, it shifts to the                  |
| 8  | operator to demonstrate, to us, why it cannot be          |
| 9  | accomplished. But feasibility, invariably, has been a     |
| 10 | consideration, in the agency's enforcement history, has   |
| 11 | been a consideration of both technological and economic   |
| 12 | feasibility. This is based on case law.                   |
| 13 | And MSHA has followed that for many years,                |
| 14 | they are obligated to follow it here.                     |
| 15 | MR. PETRIE: Any other questions?                          |
| 16 | MS. SMITH: Thank you, Jim. Prior to today                 |
| 17 | we had a request to speak, today at this hearing, from    |
| 18 | MARG. Do we have a representative here who is going to    |
| 19 |   |
| 20 | PARTICIPANT: We are not going to present                  |
| 21 | testimony today.  |
| 22 | MS. SMITH: Thank you, Mr. Chajet. Our                     |
| 23 | first speaker today will be George Love. George, could    |
| 24 | you come up, spell your name, and give your affiliation   |
| 25 | for the Court Reporter, please. Good morning.             |

MR. LOVE: Good morning. It is a relatively simple name, L-O-V-E. My name is George Love, I work for Carmeuse North America, which is the largest U.S. lime producing company in the U.S.

We have two underground mines, both of them are just south of the border, here in Kentucky. I have prepared some comments for you, and in reading through them last night I realized that I can neither spell, nor are they completely literate, so they will be edited and provided to you in a written form.

But I do want to go through most of them.

And, certainly, if you have questions, do interrupt me.

Well, thank you for the opportunity to address certain aspects of the recently promulgated MSHA regulations pertaining to diesel particulate matters, and I'm going to refer to that as DPM, I think we are all familiar with that term, and the anticipated promulgation of revisions to portions of the regulation, which were stayed until further fact-finding scientific investigations could be completed.

As I know all of you know, the metal/non-metal industry, has worked very closely with MSHA in numerous areas, both to develop a better understanding of the issues presented by the DPM in the underground mining environment, and to develop and evaluate various methods

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to control or limit DPM exposures.

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Carmeuse Lime and Stone, the largest lime producer in the United States, has moved forward aggressively on several fronts to determine appropriate methods to meet and maintain compliance, with a negotiated 400 micrograms per cubic meter, which I will refer to as the 308 number now, because we are all headed in that direction.

And, again, I think we are all familiar with that number. Today I would like to talk about, particularly, about one of the efforts, and give you some additional information that we have been engaged in, and that is the testing and use of alternative fuel blends, specifically yellow grease, and virgin soil-based fuels.

The term yellow grease is also known as recycled vegetable oil, so they get used in a lot of different ways but, generally, we refer to it as yellow grease. And I will refer to it with an acronym of B-something, B-20, for example, would be 20 percent yellow grease mixed with 80 percent of low sulfur diesel fuel. So I think some of you are familiar with that particular wording.

We, Carmeuse, began a study in the fall of 2002 to evaluate the efficacy of two of the two products, the yellow grease and the soy blend. And we invited MSHA

1 to participate in our studies. And the agency recently penned several reports which, I understand, have been 2 made part of the record. 3 But when I submit my comments, my written 4 5 comments, I will include another copy of it, just because 6 that is the way I do it. 7 So according to the MSHA sampling, which is generally supported by the Carmeuse data, we had pumps 8 9 and so forth, side by side, there were measurable 10 reductions in DPM emissions. 11 For example, using the elemental carbon data, which are the only data that I will refer to, as I 12 13 mentioned before, the return air, this is the air leaving 14 the mine, which is a good indicator, it is fully diluted, 15 the diesel particulate matter is fully diluted. According to MSHA's sampling, the diesel 16 17 baseline, when we were running the low sulfur diesel fuel 18 only, the weighted average of the return air was 352 19 micrograms per cubic meter. For the B-20 blend, which is 20 percent 20 21 yellow grease, and 80 percent low sulfur diesel, that 2.2 number dropped to 235. And when we used a 50 percent 23 blend, the number dropped to 109. 2.4 These values correspond to a 33 percent, and a 69 percent reduction in DPM, when using those fuel 25

1 blends. However, these data alone do not demonstrate compliance with the interim limit. They are fully 2 3 diluted values, all the incoming fresh air intimately 4 commingled with the diesel exhaust from each working 5 area. 6 The regulations require compliance be based 7 upon personal samples that are corrected in the breathing 8 zone. Therefore the data represent an interesting trend, 9 rather than an actual demonstration of compliance. 10 Focusing, for a moment, on employees, in the 11 MSHA studies they broke the data into two broad groups. 12 Employees working in cabs, and those that were working 13 outside of cabs. 14 And I want to read, just a little section 15 here, briefly. This is a quote from one of the reports 16 that was done by Schultz 2003, specifically the yellow 17 grease study. 18 The average TC concentration of employees, 19 working inside of cabs, during the baseline survey was 20 220. During the B-20 diesel survey this average 21 concentration was 219. During the B-50 survey, the 2.2 average concentration was reduced to 89 micrograms per 23 cubic meter. 2.4 Miners working outside of the cab showed 25 similar results. The average TC baseline concentration

was 300 micrograms. During the B-20 survey the concentration was reduced to 208 and since only one employee fell into the category of working outside of the cab, during the B-50, the concentration was measured as 216, which was a 28 percent reduction in the baseline concentration.

I should correct myself, I have the actual quote here, I have somewhat paraphrased it.

Now, I want to describe that sampling just a little bit further. And, again, I will present these numbers to you. During the three-phase study, in which Carmeuse and MSHA worked side by side, Carmeuse took 100 samples, 32 of which were personal samples; MSHA and NIOSH, incidentally, was working there with them, 122 samples, 65 of which were personal samples.

So we have this body of 222 samples that we all took at the same time. For the diesel baseline study Carmeuse had 24 samples, 7 of which were personal, MSHA had 36 samples, 19 of which were personal samples, hanging on individuals.

Looking at those data Carmeuse had two values that exceeded the 308 limit, and MSHA had four that exceeded the 308 limit. Carmeuse had six that exceeded the 160 limit or 123, I believe, is the conversion there; and MSHA had 17 of theirs that would

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have, in fact, exceeded that limit.

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When we look at the data for the B-20 mixture, Carmeuse had 30 samples, 7 of which were personal; MSHA had 35 samples, 17 of which were personal samples. Looking, again, at that breakdown Carmeuse, we had three personal samples that exceeded the 400 limit, and we had seven that exceeded -- I'm sorry, we had three that exceeded the 308, and we had five that exceeded the 161-23 limit.

The MSHA sampling, again at the B-20, had two that exceeded the 308, and 14 that exceeded the lower limit of 160-123. For the B-50 Carmeuse had 26 samples, 7 of which were personal; MSHA had 32 samples, 14 of which were the personal samples.

In all cases no one exceeded the 400/308 limit. However, the company sampling, three were greater than the 160/123, and MSHA sampling there were six that exceeded that value.

Now, I tell you these things because it is important that we not misconstrue these numbers. The ones that were presented in the MSHA papers are averages, and they are fine averages. But they are averages over time, and they are averages over equipment.

As such they do not simply illustrate that changing the fuel is going to be the silver bullet for us

to achieve these levels. There are numerous variables, and MSHA again has provided a list, in their documentation, that have not been factored into these things, variables which are rather important in the mining industry, if you work underground, on a day to day basis.

And so we don't think that fuel alone, or other things alone, are going to be the universal silver bullet to take care of these problems.

Now, in my opening remarks, I mentioned that we had also tested virgin soy-based diesel blend. The results there were much less satisfactory. The results that we measured and, also I think I can say, that that is demonstrated in the MSHA numbers as well.

And, in addition, we provided questionnaires to all of our underground employees. It was rather interesting because, in general, the personnel did not like the smell of the air, and they didn't like the feel of the air, burning the soy blend.

I might just tell you that we have a number of women that work underground, something that I cannot identify with, but they told me that they had a hard time washing their hair after the use of the soy blend. So I don't know if that is good or bad. But moving right along here.

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I want to talk, a little more, about the impact of the diesel, of the bio-diesel fuel. I have given you some numbers and it shows that the emissions come down. So while these blend data are encouraging, they must be evaluated in light of other factors, such as the operational impacts of using the fuel blends. The information that I'm about to share with you are based upon data that were collected in late 2002, and 2003, through August, because we have very good numbers there. Based upon the initial studies that were done by us, and by MSHA, we decided to use a B-35 blend. We had two data points, we took halfway in between, and that is what we are currently using underground. That is a blend of the yellow grease, at 35 percent, low sulfur diesel at 65 percent. We started that in June of 2003. Now, I'm going to specifically focus on our Maysville mine. I have my office there and, frankly, it is a little easier to get the information, and to do additional sampling. Let's talk about fuel information. The cost per gallon of B-100, this would just be the yellow grease fuel, has varied significantly, and is much higher than

the cost of low sulfur diesel.

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Our supplier, which is Griffin industries, a local here in the Cincinnati area, has informed us that the current government subsidy is scheduled for reduction in 2004, and potentially for elimination in 2005. So this will very significantly impact the cost of fuel.

Specifically we have been told that the cost per gallon for the B-100, will be at or above two dollars per gallon in the year 2004, versus the current price of 1 dollar 67 per gallon. And when we conducted the original test the cost, at the end of that period, was 1 dollar 47 a gallon.

In addition to the increased cost of fuel, fuel consumption on an hourly basis has gone up measurably. We began measuring, metering fuel into all of our equipment at the Maysville mine, individual equipment, in January of 2003. And that is why these numbers, we feel, are very pertinent, and they are very good, because we metered it into each piece of equipment.

I have a tabulation here, which you will see in the written documents, but I will just paraphrase it for you. I talk, again, about the cost of the various fuels, 89 cents per gallon for diesel, versus a current price of 1.67 a gallon for the bio-diesel, which is an average price, today, of 1.16 per gallon for the B-35.

The consumption of fuel, and I will focus

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1 now on tier 2 equipment, this is new caterpillar equipment that we have underground. We have a 988 G-2 3 loader, that in the February through May time frame of this year used 11.2 gallons, per hour, of fuel. 4 5 In the June through August time frame, it is 6 using 11.4, which is a 1.8 percent increase in 7 consumption. We also have 631-G trucks, these are articulated trucks, 40 ton, that transport our product. 8 9 In the February through May time frame, with 10 the low sulfur diesel only, it was 9.6 gallons per hour. 11 June through August, that is now 9.8 gallons per gallon, 12 which is a little bit more than a two percent increase 13 in fuel consumption for those trucks. 14 What that translates into is a 30, almost a 33 percent increase in fuel cost for the 988-G loader, on 15 16 a per hour basis, and almost a 34 percent fuel cost per 17 hour for the trucks that we are using. So they are significant increases. 18 19 But those are just numbers, let me translate 20 that into a bit more that we can all deal with. Using 21 the 2002 fuel numbers, the Maysville organization 2.2 purchased 500,045 gallons of fuel. More than 80 percent 23 of that fuel was burned in the underground mine. But I'm 2.4 only going to use the 80 percent number.

At our current contract price for diesel

1 fuel, which is 89 cents, and you can get long-term contracts for that fuel, for 2002 we spent more than 2 356,000 dollars for fuel. 3 If you simply translate that into a cost for 4 the B-35, the cost of fuel in 2002, had we been burning 5 it at that blend, would have been more than 465,000 6 7 dollars, or an increase in excess of 109,000 dollars per year, simply for fuel, just to buy the fuel. 8 9 Now, I want to go on and show you where that 10 leads to because we have other data, and consumable 11 supplies, for example, just to take a very simple 12 example. On the newer cat equipment, as I say, we are using, in the entire mine, we are using the B-35. 13 14 The newer cat equipment has tier 2 engines, 15 which we all know produce less DPM emissions, and they 16 are those engines that are required going forward for 17 additions to fleets. The manufacturer tells us that to cool the 18 19 injectors, fuel is pumped at a very high rate through the 20 engine, so you turn over the fuel that is in the tank a 21 number of times greater than you normally would. I'm not 2.2 an expert on that, I've told you everything I know, there 23 may be someone else who can explain it better. 2.4 But the point is that this fuel must pass

through the fuel filters. And we have experienced

numerous problems with the fuel filters. The rate of fuel filter replacement, in the last three months, has tripled. The cost of fuel filters has quadrupled.

And that is because the larger equipment uses more expensive filters. Now, those are not huge numbers, but they relate to the next problem, which is an operational problem.

The fact that we are using -- well, equipment downtime related to filters must be considered in an economic evaluation. In the case of the Maysville mine, phase loaders, that is equipment that is picking up the rock and loading it into the trucks, generally work with one to four trucks, depending on a number of factors.

When a loader is inoperable, the trucks become either inoperable, because they have to sit there and do nothing, or some of them can be moved to work with another loader. But in an underground mine it is not a matter of sending all of your equipment to another location because it is a confined area, you just don't have room.

And when a truck goes down then it is merely a matter of the truck being down, the loader and the other haulage equipment can continue to work. However, it is at a much less productive rate.

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Now, we've monitored our situation with regard to the newer tier 2 equipment. And, for example, our 988-G loader is averaging 1.5 hours of downtime per two operating days. That translates to 18 hours per month, and conservatively that means that we have 45 hours of non-productive time for an average of two and a half trucks that are working in that setup.

In addition to that time each truck, on its own, can have additional downtime. If a truck has a clogged filter and it has to limp off into a corner somewhere, using Maysville's standard costs, which are probably lower than the industry, because these are new equipment, we have calculated that the additional need for production is costing us in excess of 8,100 dollars per month. That is made up with overtime.

Now, that number includes fuel, it includes the overtime premium on the people, it includes the consumable supplies that go into that equipment. Now, that doesn't sound like a particularly big number.

Multiply that by 12, it is just under 100,000 dollars.

However, our fleet contains a number of older pieces of equipment, which are being phased out, and we are buying the newer equipment with the tier 2 engines. We expect this problem will continue, because we have had it for three months, and it is very steady,

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1 it is very measurable, you can predict when the equipment is going to go down, now. 2 As we convert our fleet this number will 3 4 really translate into, conservatively, 224,000 dollars 5 per year, of downtime, that will have to be made up with overtime. And that number doesn't include the delta cost 6 7 of fuel. So when you add that in, and again I will 8 9 tabulate all of these things for you, we can clearly see, 10 it would be a minimum increase in cost to us of in excess 11 of 353,000 dollars per year. 12 I want to emphasize that does not include, 13 when you are working overtime, we have conveyors that are 14 running that would normally have been scheduled down, we have maintenance people that are working, who would 15 16 normally have been scheduled off. So I haven't even 17 included those costs. 18 But those are very real numbers. So you can 19 see that, very quickly, just with the use of B-35 we are 20 increasing our costs significantly. 21 So I -- and I've talked about the tier 2 2.2 engines, but we also have Deutz engines. It is just 23 another manufacturer of a diesel engine. We have been 2.4 having trouble with those engines, as well. 25 So our maintenance people have contacted the manufacturer, and I will include, when I submit to you the documentation that we've gotten back from Deutz. But I want to just tell you that, I will just read this paragraph.

In addition to Cat engines we have the Deutz. Recent communications with Deutz, prompted by numerous mechanical engine problems, have resulted in Deutz stating that biodiesel blends, above 20 percent, are excluded from approval. This was translated from German, and I don't read German, so I accept it for what it says.

But they further go on to say, as U.S. biodiesel quality has never been tested by Deutz, there exists no approval, i.e., in the short frame of this, Deutz is telling us that they are not going to warrant their engines for the use of biodiesel in excess of 20 percent.

And, further, I interpret this to say they are not going to warrant the use of an engine with american biodiesel until such time as they go through the testing and trials to see whether or not it works.

I certainly have no idea when, or if they would be inclined to do that. The significant point is that we would be inclined then to purchase Cat engines.

And since those Cat engines are going to be tier 2, then

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1 we would expect to have continuing problems with the use of the biodiesel. 2 I want to move on to just a couple of other 3 4 things. As I mentioned before, Carmeuse is aggressively moving forward on a number of efforts to reach the 308. 5 6 But our experience tells us that occasions will arise on 7 which personal protective equipment will be the answer to the problems. 8 9 And because of that, at least in the short 10 term, and because of that we applaud MSHA's move to 11 revoke the prohibition on personal protective equipment. We think that that will give us a lot more flexibility in 12 13 protecting our employees. 14 In the Carmeuse mine, in our mines, there 15 are occupations, such as a roof bolter, that folks must work outside of the cab. It is not an efficient thing 16 17 for them to work inside of a cab to do their jobs. And in those cases the use of a full face 18 19 shield, and filtered air, and so forth, which are 20 protective equipment, will be, at least in the near 21 term, a solution for us to address that. So, like I 2.2 said, we do appreciate that. 23 But I also want to say something about air. 2.4 One of the things that we are doing is also to redirect 25 our air into areas where we need it. That is not a

simple thing, and it is not an inexpensive thing.

And there are, even, occasions in which

getting more air into a mine may not be technically

feasible, depending on what the situation is with

moisture in the air, as it affects pillar strength, and

floor strength, and so forth, it can create other kinds

of problems.

But in our case, in Maysville, just to give

But in our case, in Maysville, just to give you an example, our mine is 800 to 1,200 feet underground, depending on the topography. In order to effectively put air where you need it, you may not have the choice of putting an air shaft in a valley, you may have to put it at a higher elevation.

The construction of the shafts that we use, they are approximately, rule of thumb, 1,000 dollars per vertical foot. So we are looking at a million dollars, on average, to install air shafts.

So simply chasing air around is not the easiest thing in the world. So I will move on now to the rotation of personnel. I know that that is still not being allowed. It has never been Carmeuse's practice to rotate personnel to avoid health risks.

However, given the lack of substantiated data demonstrating the health risks associated with a specific DPM level, in the underground environment, we

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1 believe that that is an option that should be allowed to 2 us. We ask that MSHA remove all restrictions on 3 4 the use of rotation as a means to protect the health of 5 company employees. 6 I want to move on to something that is a 7 little more near and dear to my heart, and that is the 8 use of the single sample for compliance. And these data, 9 again, I will provide them to you. We already have some 10 of them, and that is based upon the MSHA study that was 11 done side by side with ours. 12 Frankly we don't believe that a single 13 sample will fairly represent the situation, and we are 14 unsure that the method has been proven to be accurate, and feasible. 15 16 And I base this statement upon a review of 17 the data that MSHA collected in our mine, and the data that we collected and shared with MSHA. During the three 18 phase study that we conducted with MSHA, we had samplers 19 20 hanging side by side. 21 I don't know how many of you are familiar 2.2 with these things, but it is a small device. And they 23 can be hanging, if you hang them side by side, on the 2.4 personal sample, it would be hanging on the lapel on

someone's chest. So they are a foot apart, perhaps less.

The variation in those samples we are concerned about. Because just using the MSHA data, or rather using the comparison of the MSHA and the Carmeuse data, there were variances.

And when I say variance I'm not speaking about the statistical variance, I'm not a statistician. I'm speaking about the simple difference between two numbers. If one sample says 200, and the other sample says 100, to me that is a variance of 100 percent, or 50 percent, depending on which one you divide by.

I would -- so there is a big difference. I think all of us can agree that there is a big difference between those two numbers. We saw that in this side by side business, that there was a variance as small as, essentially, zero which is wonderful, to as much as 51 percent between the company samples and MSHA samples.

And I would venture to say that the samples were taken appropriately because we stood side by side with MSHA's technical people, and if we were doing something wrong they would tell us. And we worked very well together, it was a very cooperative effort.

Now, I want to move on from that. And, again, in the written testimony I will provide you with the specific information that you can look at. But I want to go now to looking only at the MSHA samples, where

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1 MSHA collected two samples next to ours, but MSHA now has two samples side by side. 2 3 In that particular case the -- and we are 4 talking, again, only about elemental carbon, MSHA samples 5 varied from as little as one percent, to as much as 299 6 percent. And I, frankly, have no idea how one would go 7 about explaining that difference. And that is a huge difference. I might also 8 9 point out that I will provide you with a couple of these 10 numbers, because they are not in the MSHA report. 11 One of them was a 305, and the sample that 12 was beside it was in the 70s. I know what the -- or 65, 13 rather. I know what those values were, because we shared 14 all of our numbers, as did MSHA, we shared them back and forth. 15 16 But there is no explanation of the fact that 17 there is this one sample that is, I think, even from a 18 statistical standpoint, could be defined as significantly 19 different. And there is no explanation why that number 20 just simply does not appear. 21 That raises questions in our minds. I don't 2.2 think, from the statistical standpoint, that that number 23 would necessarily have been used, it is a statistical 2.4 outlier. 25 But from a day to day standpoint where

people like me, who are standing underground, and I'm standing up to my kneecaps in water, and I have a job to do in the mine, I don't understand that. And if that was hanging on me, either I'm in good shape, or I'm in bad shape, but there needs to be an explanation of that extremely wide variation.

Because, as I think you are all aware, in the preamble to this most recent print-out, it is 250 pages, there is a pretty good section in there that touts how wonderful the statistical tightness, if you will, on this single sample, and the fact that it is going to be very good.

Again, not as a statistical practitioner, but as a guy who lives day to day in the mine, I don't believe it. I would like to see somebody show me why we can have that. And if you write me a ticket for one that is wrong, I will certainly be unhappy.

Now, moving on, well just one other thing that I want to say. That is at the 400/308 level. I can't imagine what would happen at the 160 level because, there, a few points difference is going to make a much wider percentage variation.

And if we are being written tickets for two or three points over a limit, when we have no idea if that number really should be 10, or 15, or 20 points

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either lower, or in all fairness either higher, it begs a lot of questions from us.

Now, in reading this most recent document, there is information there about health effects. And I read that, as carefully as I could. I'm not a doctor, I'm simply a geologist. And I see that there is a number of pages that list a number of articles.

And to quote, the MSHA text says: We have identified additional scientific literature pertaining to health effects of fine particles in general and DPM in particular, published subsequent to January the 19th, 2001, final rule.

And then there are pages of recitations. Well, I don't know where that description came from. I suppose that I could read the articles, but I wouldn't understand them. I think there is an obligation, on the part of the agency, to try to explain it to people like me who are regulated by MSHA, but are not experts in a number of areas.

And, presumably, this was done by a qualified reviewer, I don't know, not casting aspersions, just simply don't know. I don't know if these papers were peer reviewed. But what I can tell you, from a simple layman's study, I see phrases in the summations, and this is right out of the MSHA text, such as

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significantly correlated with CO and NO2 levels, but not with suspended particles, yielded mixed results, exhibited slightly increased asthmatic impacts, suggests that air pollutants may increase.

What does that mean? Either it is, or either it ain't, as we use in the mining business. I just don't understand that kind of terminology as a basis for asking people to spend significant numbers of dollars.

So, and in all fairness I must tell you that there were some papers whose descriptions appeared to conclusively link DPM to health problems. But, again, I'm not in a position to evaluate that.

However, I will tell you that Dr. Jonathan Borak, working for MARG, I admit that that is the case, has asked a number of detailed questions about the risks of -- let me rephrase this, about the nature and the information of the risks, and how those risks were determined.

I, personally, have not seen a sound, thorough rebuttal of Dr. Borak's comments by MSHA. I would like to see that. I think that the mining industry deserves such a rebuttal. If Dr. Borak's comments are either unfounded, or there are other data that would lead him to a different conclusion, that is fine. But I would

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certainly like to see that.

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So, in summary, Carmeuse asks that MSHA consider these comments during its deliberation of the Rule. We feel that the current negotiated standard of 308 will be difficult and costly to achieve, but we are committed to doing so, and we are spending substantial dollars to achieve that.

As to the matter of the final DPM level, we don't really see a justification for that number. And so we ask that you very carefully consider that, and provide us with a meaningful justification, written in a language that a simple geologist could understand.

We also ask that you reconsider the single sample criteria because, based on our real world experience in sampling side by side with MSHA's technical people, we see some huge variation. We see data that are missing from the table, one data point that is missing from the table, without explanation, certainly begs questions.

And we are not, necessarily, convinced that this method of determining whether we are in compliance or not, is either accurate, or feasible to do. And I hope I didn't bore you, but that concludes my remarks. And I will provide all of this data to you.

And I'm told, I think I already said that,

| 1  | that you have the MSHA papers, but I will give them to    |
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| 2  | you again, anyway. Thank you very much. Questions?        |
| 3  | MS. SMITH: Any questions by panel members                 |
| 4  | for Mr. Love?   |
| 5  | MS. CASH: Yes, I have one question for you.               |
| 6  | You have the data on the costs for the maintenance, using |
| 7  | the B-35 blend. Will you also be supplying the            |
| 8  | maintenance costs from the previous year, on your regular |
| 9  | fuel diesel, so that we can have that for comparison,     |
| 10 | also?   |
| 11 | MR. LOVE: We certainly can.                               |
| 12 | MS. CASH: That would be very good, thank                  |
| 13 | you.  |
| 14 | MR. LOVE: You bet. If I forget, let me                    |
| 15 | know. Having said that, there is just one caveat that I   |
| 16 | have to you. And that is that the new equipment was       |
| 17 | purchased during 2002, so the comparison will not         |
| 18 | necessarily be apples to apples, because we have older    |
| 19 | equipment, and we bought the new equipment.               |
| 20 | So I will give you what I can, as best I                  |
| 21 | can.  |
| 22 | MS. CASH: We will appreciate anything that                |
| 23 | you can share.  |
| 24 | MR. LOVE: Sure.   |
| 25 | MS. CASH: Thank you.                                      |

1 MR. SASEEN: This may be a follow-up also. On the 1.5 hours of downtime you have for two days, you 2 are saying on that new loader, the 988 Cat loader, are 3 4 you specifically saying, is that just fuel filter, caused by fuel filter downtime, or is that fuel filter downtime 5 6 plus other maintenance downtimes? 7 MR. LOVE: No. It is, specifically, fuel filter downtime. And let me describe the situation to 8 9 The equipment is working out at the face, the 10 loader will loose power. And you've often heard people 11 say, I lose power. What will happen is it really will lose 12 13 power, but it will have enough to go back to the shop. 14 Our maintenance personnel have a certain diagnostic program that they have to go through, there are certain 15 16 things that they look at. 17 And, so far, in this three month period 18 every case has been, you replace the fuel filter, and the 19 equipment runs fine, it goes back to work. So, yes, it is a fuel filter. 20 21 And I will tell you, also, that our PM 2.2 program requires us to change fuel filters, and do other 23 things, every 335, 350 hours, running hours, on a piece 2.4 of equipment. 25

This translates to, instead of one filter

| 1  | per that PM interval, it is ten filters per that PM      |
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| 2  | interval. And, so far, it has always been the filter.    |
| 3  | MR. SASEEN: And this is on, is the machine               |
| 4  | new, or is it just the engine new?                       |
| 5  | MR. LOVE: I want to say it is about a year               |
| 6  | old. It is a Caterpillar 988-G with a tier 2 engine.     |
| 7  | And we also have the trucks, they are brand new, roughly |
| 8  | a year old, maybe a little less.                         |
| 9  | MR. SASEEN: And one more thing. You                      |
| 10 | mentioned about Deutz and their statement, or some sort  |
| 11 | of statement about the warranty above 20 percent by the  |
| 12 | diesel?  |
| 13 | MR. LOVE: Correct.                                       |
| 14 | MR. SASEEN: Could you supply that to the                 |
| 15 | record?  |
| 16 | MR. LOVE: Yes, that will be I actually                   |
| 17 | have it attached here. It came in an email to us but,    |
| 18 | yes, that document will be provided to you folks.        |
| 19 | MR. SASEEN: Have you gotten that from                    |
| 20 | Caterpillar, or any indication from Caterpillar?         |
| 21 | MR. LOVE: Interestingly enough Caterpillar               |
| 22 | says that if we use the biodiesels they continue to      |
| 23 | warrant their engines. The fuel filter is separate from  |
| 24 | the engine, I don't know, but                            |
| 25 | MR. SASEEN: Consumable. Thank you.                       |

| 1  | MS. CASH: Mr. Love, one other thing. By                   |
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| 2  | any chance do you know if Caterpillar, or any of the      |
| 3  | other manufacturers have developed, or are using filters, |
| 4  | that are specifically designed for use for biodiesel?     |
| 5  | And I'm asking that because I know that in                |
| 6  | some cases they have recommended you, if you are using a  |
| 7  | higher blend, that you might need to change gaskets       |
| 8  | because of the possibility of deterioration.              |
| 9  | And I wonder if that has also been                        |
| 10 | considered in the fuel filters? You, having talked with   |
| 11 | the manufacturers probably a little bit more than I have  |
| 12 | this week.  |
| 13 | MR. LOVE: Okay. I can tell you that I have                |
| 14 | no information, whatsoever, about whether they have       |
| 15 | recommended the filter. However, in our Maysville mine,   |
| 16 | all of our PM work is done by Caterpillar, through        |
| 17 | contract.   |
| 18 | And there have been discussions, as you've                |
| 19 | pointed out, about the various gaskets, and so forth.     |
| 20 | But there has been no discussion, that I'm aware of,      |
| 21 | regarding filters.  |
| 22 | MS. CASH: Okay, thank you.                                |
| 23 | MR. LOVE: Cat does all of the maintenance,                |
| 24 | so I guess they will figure out how to do it.             |
| 25 | MS. CASH: Okay, thank you.                                |

1 MS. SMITH: And Mr. Haney, from MSHA's technical support center, I think, would like to ask you 2 3 a question. MR. LOVE: Oh, sure. 4 5 MR. HANEY: George, on the fuel filters, you 6 have the same problem when you use the virgin soy as you 7 have when you use the recycled vegetable oil? MR. LOVE: No. Now, let me flesh that out 8 9 a little bit. We tested the virgin soy fuel during the 10 test period for approximately two weeks, as we did with 11 the others. When we did our test period, we would bring 12 13 the fuel in and start introducing it to the engines, so 14 that we got the engines completely, or the fuel tanks 15 completely cleaned out, and then did the test work. 16 My recollection is that we had no problems. 17 Well, I know that we had no problems. That followed on 18 the heels, however, of using the B-50 at both of the 19 mines. Now, the yellow grease biodiesel is a solvent. 20 And we actually tore some of our engines down for other 21 reasons, after we used that material. 2.2 And the heads were clean, and it did a fine 23 job of cleaning out all the old crud that was in there. 2.4 So we don't know, we don't know if we continued to use 25 whether the SOY there would be problem.

| 2  | But during that testing period if there were              |
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| 3  | problems they were insignificant, compared to what we are |
| 4  | experiencing now. I just wanted to make sure I framed     |
| 5  | that out to give you the full                             |
| 6  | MR. HANEY: The distributor fuel, you told                 |
| 7  | me, cost a penny, or a percent per gallon. So for B-35    |
| 8  | that would be 35 cents a gallon over number 2 fuel. Is    |
| 9  | that  |
| 10 | MR. LOVE: Well, let's see, in the blend our               |
| 11 | B-35 is 1.16, and we are paying 89 cents, so that would   |
| 12 | be 27 cents. It would be a 27 cent premium.               |
| 13 | MS. SMITH: George, any other questions?                   |
| 14 | MR. SASEEN: No, I'm fine.                                 |
| 15 | MS. SMITH: Thank you, Mr. Love, and we                    |
| 16 | would appreciate receiving whatever additional            |
| 17 | information or data you would like to submit to us, by    |
| 18 | the close of the comment period on October the 14th.      |
| 19 | MR. LOVE: Okay, it will be coming to you.                 |
| 20 | Thank you very much for the opportunity.                  |
| 21 | MS. SMITH: Do we have other speakers who                  |
| 22 | wish, at this point in time, to give comments?            |
| 23 | (No response.)  |
| 24 | MS. SMITH: Since we have no one else, at                  |
| 25 | this point in time, we are going to go off the record for |

| 1  | about a half an hour, we will come back on the record, at |
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| 2  | that point in time, and check to see if we have           |
| 3  | additional speakers who have signed up to speak. And, if  |
| 4  | not, then we will close the record at that time.          |
| 5  | (Whereupon, the above-entitled matter went                |
| 6  | off the record at 10:08 a.m. and went back                |
| 7  | on the record at 10:40 a.m.)                              |
| 8  | MS. SMITH: We are going to be going back on               |
| 9  | the record now. Mr. George Love has asked if he could     |
| 10 | add additional comments. Mr. Love, please.                |
| 11 | MR. LOVE: Thank you very much. George                     |
| 12 | Love, with Carmeuse.                                      |
| 13 | In my earlier comments, as I was speaking,                |
| 14 | I got near the end of my summary, and I made the comment  |
| 15 | about justifying the 160. I need to repeal that because   |
| 16 | we, in the industry, are really asking that we do away    |
| 17 | with the 160 limit. We have negotiated the 308, if you    |
| 18 | will, and certainly on Carmeuse's behalf we will live     |
| 19 | with that. But we would like to do away with the lower    |
| 20 | limit. Thank you.   |
| 21 | MS. SMITH: Thank you very much. Are there                 |
| 22 | any other speakers, at this time, who would like to       |
| 23 | present information or testimony?                         |
| 24 | (No response.)  |
| 25 | MS. SMITH: All right, thank you. With that                |

| 1 | we will close this hearing. Thank you very much. |
|---|--|
| 2 | (Whereupon, at 10:41 a.m., the above-            |
| 3 | entitled matter was concluded.)                  |